

Date: Thursday, 18/09/2008 11:13:32 AM
 User: Julie Lecocq

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services
 Job Number : 42109
 Estimate Number : 10426
 P.O. Number :
 This Issue : 18/09/2008 S.O. No. :
 Prsht Rev. : NC
 First Issue : // Type : MACHINED PARTS
 Previous Run : 40862
 Written By :
 Checked & Approved By : JUD 08.9.18
 Comment : Est: D 04.11.26 Revised Steps 7 KJ/JLM

Drawing Name : TUBE ASSEMBLY
 Part Number : D3304044
 Drawing Number : D3304 REV. B
 Project Number : N/A
 Drawing Revision : B
 Material :
 Due Date : 10/10/2008 Qty: 4 Um: Each

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	M304TR0875W065	304 round tube .875 x .065w 
		Comment: Qty.: 1.9469 f(s)/Unit Total : 7.7876 f(s) Material: AISI 304/316 SS tubing 0.875" x 0.065" wall (M304TR0.875W.065) Batch: M109007 J.F. 08/09/21 (4)
2.0	BAND SAW	BAND SAW 
		Comment: BAND SAW 1- Cut blank: 22.00" as per Dwg D3304 J.F. 08/09/21 (4)
3.0	LATHE CONV.	CONVENTIONAL LATHE 
		Comment: COVENTIONAL LATHE 1- Cut blank: 22.00" as per Dwg D3304 2- Turn as per Dwg D3304 3- Deburr J.F. 08/09/21 (4)
4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE 
		Comment: INSPECT PARTS AS THEY COME OFF MACHINE J.F. 08/09/21 (4)
5.0	QC8	SECOND CHECK 
		Comment: SECOND CHECK J.F. 08/09/21 (4)

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 18/09/2008 11:13:32 AM
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Drawing Name: TUBE ASSEMBLY

Job Number: 42109

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Job Number:



Seq. #: Machine Or Operation:

Description :

6.0 SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

- 1- Drill as per Dwg D3304 using drill Jig D3304-T1
- 2- Form as per Dwg D3304
- 3- Cut tube to length as per Dwg D3304
- 4- Check with DT8657 JIG
- 5- Deburr

FF 08/10/21

4

7.0 QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 08/10/21 ④

8.0 D33048

Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bracket

Pick:

Qty Part Number Description Batch
1 D3304-8 Bracket B40908

EL 8-10-30 x4

9.0 LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

Weld bracket as per Dwg D3304 and QSI 004

M107051

EL 8-10-30 x4

10.0 QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

11.0 QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

108.10.31④

12.0 POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

2:30

START TIME:

320 °F

OVEN TEMPERATURE:

3:00

FINISH TIME:

M-F 08/10/31

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 18/09/2008 11:13:32 AM
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services		Drawing Name: TUBE ASSEMBLY
Job Number: 42109		Part Number: D3304044
Job Number:		
Seq. #:	Machine Or Operation:	Description :
13.0	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION 
Comment: INSPECT POWDER COAT		FF 08/11/03
14.0	BLBS0016	PIP PIN 
Comment: Qty.: 1.0000 Each(s)/Unit Total : 4.0000 Each(s) PIP PIN Pick: Qty Part Number Description Batch		109199 FF 08/11/03
15.0	CBL460	Loop Sleeve 
Comment: Qty.: 2.0000 Each(s)/Unit Total : 8.0000 Each(s) Loop Sleeve Pick: Qty Part Number Description Batch		109062 FF 08/11/03
16.0	CBL1240	Cable 
Comment: Qty.: 1.0416 f(s)/Unit Total : 4.1664 f(s) Cable Pick: Qty Part Number Description Batch		1107234 FF 08/11/03
17.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1 
Comment: SMALL & MEDIUM FAB RESOURCE 1 Assemble lanyard and pip pin as per Dwg D3304 Identify as D3304-044		FF 08/01/17
18.0	QC5	INSPECT WORK TO CURRENT STEP 
Comment: INSPECT WORK TO CURRENT STEP		108/11/03 (4)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 18/09/2008 11:13:32 AM
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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 42109

Part Number: D3304044

Job Number:



Seq. #:	Machine Or Operation:	Description :
19.0	PACKAGING 1	PACKAGING RESOURCE #1
		Comment: PACKAGING RESOURCE #1 Identify with P/N and B/N as per Dwg using a permanent fine point marker, then Stock Location: <u>ST 188</u>
20.0	QC21	FINAL INSPECTION/W/O RELEASE

Comment: FINAL INSPECTION/W/O RELEASE

cmf 08-11-04



Job Completion

08/11/04

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	42109
Description: Tube Assembly	Part Number:	D3304-3
Inspection Dwg: D3304	Rev: B	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

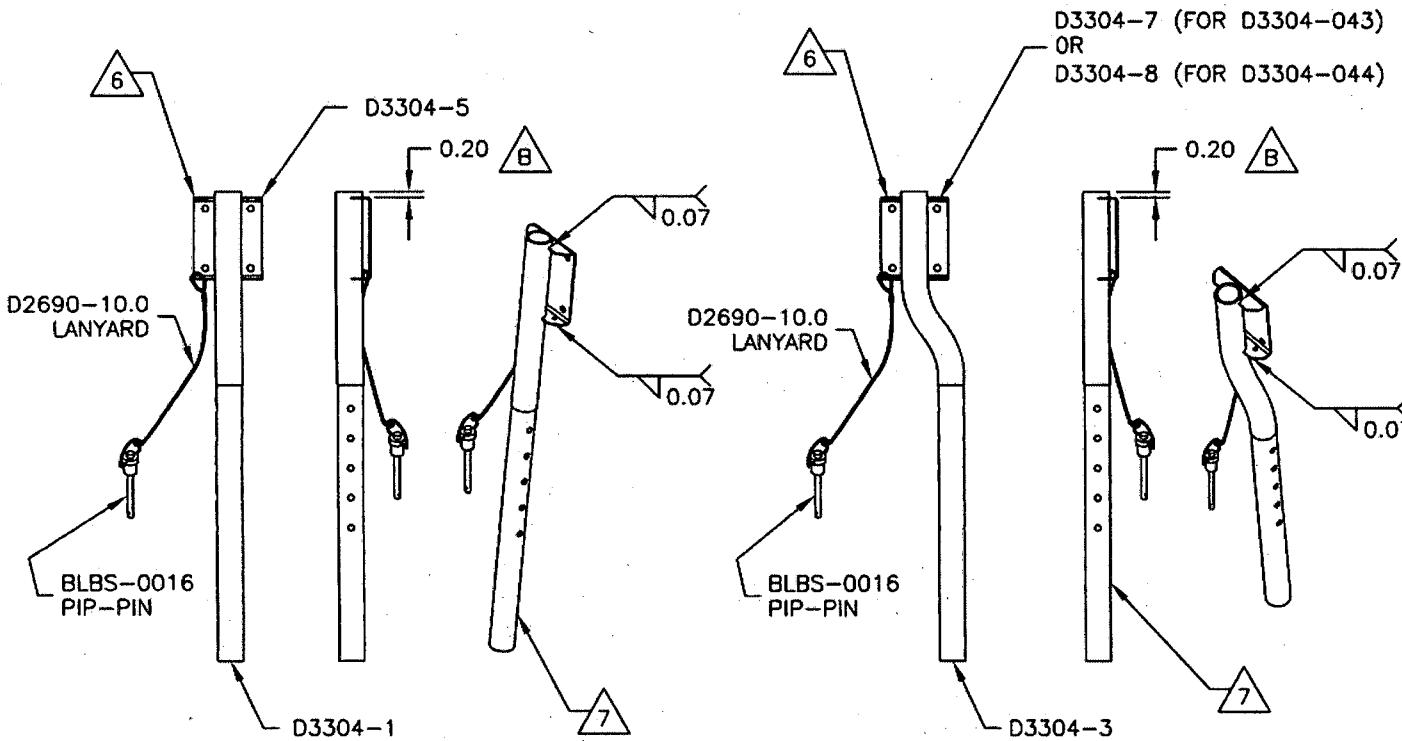
X First Article Prototype

Measured by: J.F.	Audited by: S.	Prototype Approval: N/A
Date: 08/09/21	Date: 08/09/21	Date: N/A

Rev	Date	Change	Revised by	Approved
A	04.09.08	New Issue P/O D3304-043/-044	KJ/JLM	
B	06.03.09	Dwg Rev updated	KJ/JLM	

DART

DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD	
		HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	REV. B	
		DRAWING NO.	
		D3304	SHEET 1 OF 4
DATE		TITLE	SCALE
05.07.15		TUBE ASSEMBLY	1:6
A	04.08.18	NEW ISSUE	
B	05.07.15	UPDATE DIMENSIONS; ADD D3304-7/-8	



D3304-041 TUBE ASSEMBLY

D3304-044 TUBE ASSEMBLY (SHOWN)
D3304-043 OPPOSITE

RELEASED
25.08.11

D3304-041/-043/-044 NOTES:

- 1) FINISH: POWDER COAT GREY SANTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 2) WELD PER DART QSI 004

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

ALL DIMENSIONS ARE IN INCHES

BREAK ALL SHARP EDGES 0.005 TO 0.015

IDENTIFY AS INDICATED USING FINE POINT PERMANENT INK MARKER "TCCA-PDA, DART AEROSPACE LTD, P/N D3304-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11" BEING ASSEMBLED WITH D3303-041, ADD THE FOLLOWING USING A FINE POINT PERMANENT INK MARKER: "TCCA-PDA, DART AEROSPACE LTD, P/N D412-724-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11"

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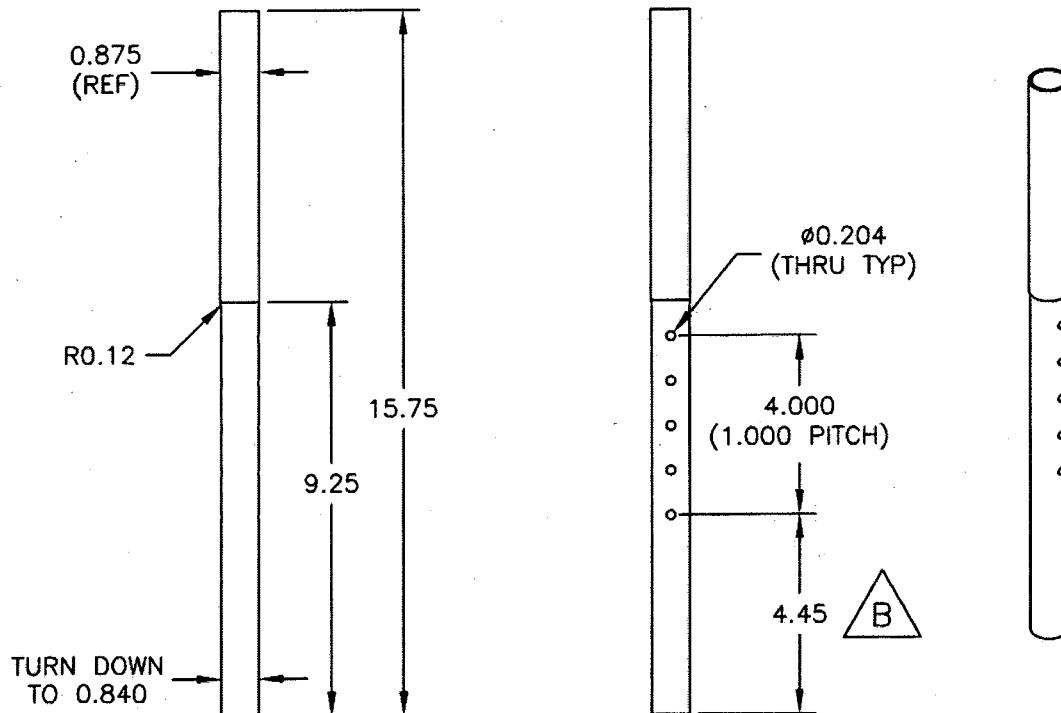
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DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>MM</i>	APPROVED <i>MM</i>	DRAWING NO. D3304	REV. B SHEET 2 OF 4
DATE 05.07.15		TITLE TUBE ASSEMBLY	SCALE 1:4

RELEASED
05.08.11 *MM***D3304-1 TUBE****D3304-1 NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE Ø0.875 x 0.065 WALL (REF. DART SPEC M304TR0.875W.065) ENSURE SEAMLESS TUBE IS USED
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015

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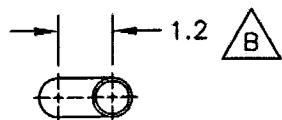
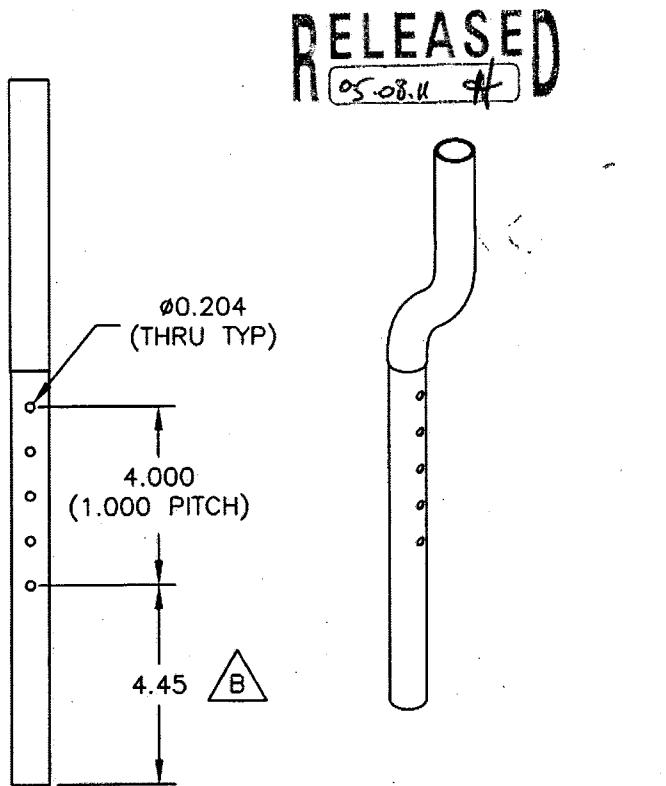
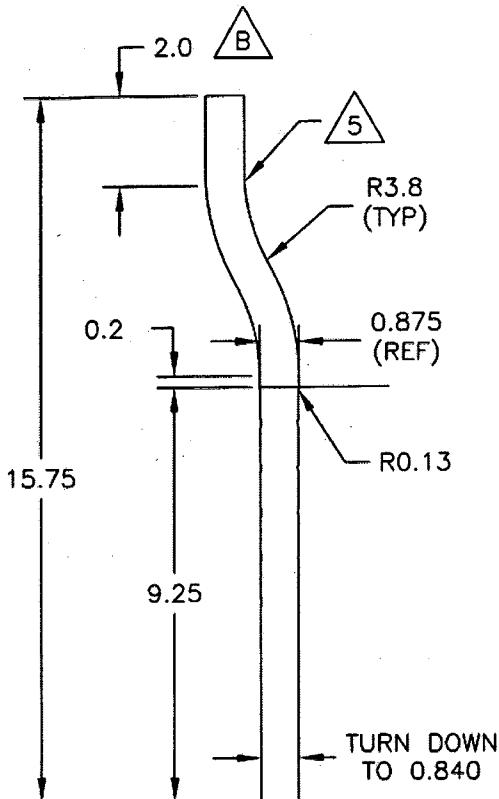
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WORK ORDER

NO. *4209*

DART

DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3304	REV. B SHEET 3 OF 4
DATE 05.07.15		TITLE TUBE ASSEMBLY	SCALE 1:4

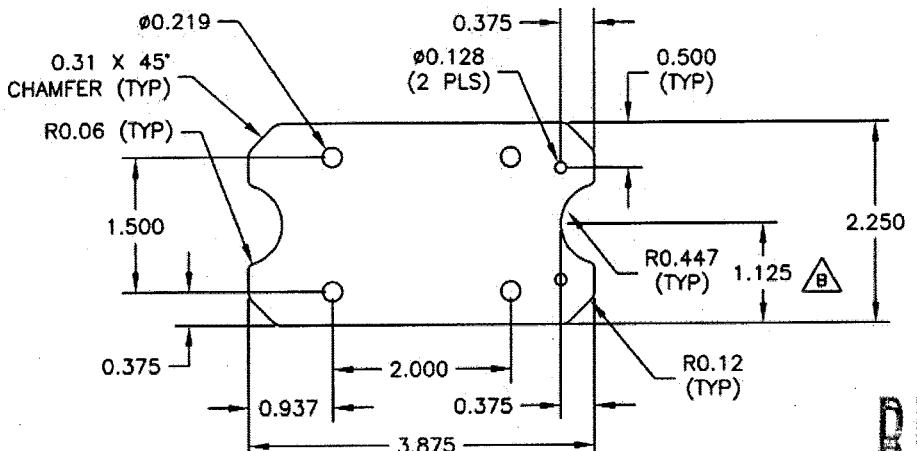
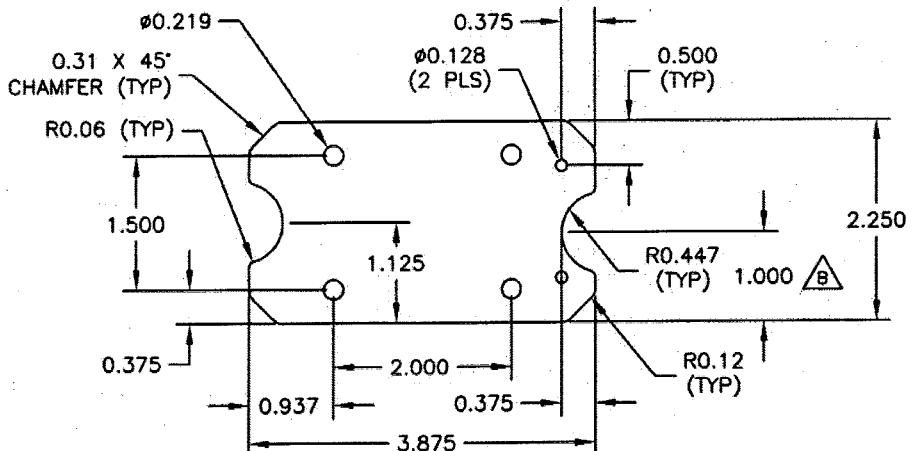
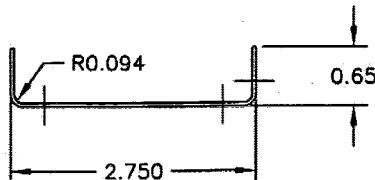
**D3304-3 TUBE****D3304-3 NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE $\phi 0.875 \times 0.065$ WALL
(REF. DART SPEC M304TR0.875W.065) ENSURE SEAMLESS TUBE IS USED
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) BEND LINES 9.625, 13.375 DIMENSIONS

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WORK ORDER
NO. *110109*

DART

DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3304 REV. B SHEET 4 OF 4
DATE 05.07.15	TITLE TUBE ASSEMBLY	SCALE 1:2

**D3304-5 FLAT PATTERN****D3304-7/-8 FLAT PATTERN****D3304-5/-7 BRACKET
D3304-8 OPPOSITE**

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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. *45107*

NOTES:

- 1) MATERIAL: AISI 304/316 SS 0.040 THICK SHEET (REF. DART SPEC M304S20GA)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015

